The Maltese ICT Agenda

1.   Background

1.1   Political Commitment

Maltese government deems Information Communication and Technology (ICT) as a key enabler for the advancement of the local economy. ICT has the political clout and is considered as one of the strategic pillars for Malta to develop into a forward looking country.

Following the general elections of March 2013, which saw a New Administration come into Government, the ICT portfolio now forms part of the Digital Economy for Malta, and falls under the Ministry for the Economy, Investment and Small Business (MEIB) and particularly under the responsibility of the Parliamentary Secretary for Competitiveness and Economic Growth.

1.2   Key Responsibilities

MEIB is responsible for the implementation of a Digital Economy for Malta, and has the overall governance of the e-Government vision, strategy and associated programmes. The Ministry provides leadership and has ultimate responsibility for the successful delivery of the ICT programme.

The implementation of a Digital Economy requires the involvement and collaboration of various key players and entities. Amongst these, the Malta Communications Authority (MCA) and the Malta Information Technology Agency (MITA) are considered to be main actors.

1.3   National Strategy

Since 1990, Malta has implemented ICT through a stategic approach. The National ICT Strategy (2008-2010) centred around the seven main streams:

- Delivering a next generation ICT environment
- Implementing a connected society that bridges the last and the new miles.
- Developing the potential for a smart workforce.
- Putting the e in everything.
- Re-inventing Government.
- Taking care of e-Business.
- Developing a world-leading ICT industry.

1.4   MCA Strategies

Another key player in the implementation of the National ICT Strategy is the MCA which regulates electronic communications, eCommerce and postal sector, and is also responsible for e-Inclusion, Internet safety and Internet governance.

The Networked Society Strategy 2012-2015 is one of the drivers aimed at maximising the opportunities brought about by ICT and reducing the Digital Divide through eInclusion initiatives.

This strategy is based on five activity thrusts, each with its own specific set of targets and initiatives:

- Thrust 1: Inspiring Everyone to get Online.
- Thrust 2: Facilitating Access and Opportunity.
- Thrust 3: Building Digital Skills and Competencies.
- Thrust 4: Promoting ICT as a Social Equaliser.
- Thrust 5: Contributing to a Better Policy.

Another strategy developed by MCA is the Networked Enterprise Strategy (2012-2015). This strategy is aimed at assisting the Maltese entrepreneur to integrate Web technologies into business processes to maximise profits and is underpinned by five main activity thrusts, namely:

- Thrust 1: Awareness and Motivation.
- Thrust 2: Capacity Building.
- Thrust 3: eCommerce for Local and Global Reach.
- Thrust 4: Exploiting Opportunities.
- Thrust 5: A Robust Business Environment for Growth.

1.5   MITA Strategic Plan

To complement the National ICT Strategy, during 2009 MITA launched the MITA Strategic Plan (2009-2012). MITA is responsible for a number of ICT programmes at a National level, manages the full implementation of ICT programmes in Government, and provides the ICT infrastructure and services required for Government operations.

This strategy focused on five strategic priorities (www.mita.gov.mt):

- To lead the ICT Strategy development and drive the deployment of an effective ICT Governance Framework within the Public Sector.
- To deliver and sustain a robust and secure ICT infrastructure and IT services to Government.
- To transform public service delivery through the application of ICT.
- To enable the growth of the knowledge economy through the engendering of a life-long ICT learning framework.
- To deliver quality of life improvements through innovative citizen centric application of ICT.

1.6   Malmö Declaration

More specifically, Government of Malta has committed to implement highly accessible online public services and has made this known at various international fora. At the fifth Ministerial eGovernment Conference held in Malmö (Sweden) in 2009, EU ministers committed to developing smarter online public services for citizens and businesses by 2015, Malta made statements with respect to:

- User-centricity;
- Multi-channelled strategies with a particular awareness to the importance of mobile devices;
- Inclusiveness, especially with respect to digitally and socially excluded groups; and

- Efficiency, with particular focus on the needs of users and the importance that trust in government and high user satisfaction is fostered.

Malta is currently also discussing with the rest of EU Member States the effects and implementation of the European Commission's Proposal for a Directive of the European Parliament and the Council on the accessibility of public sector bodies' websites.

In line with the above, and specifically with respect to making the design of e-Government services a more collaborative process, Malta remains committed to the Malmö declaration on actively seeking collaboration with third parties (including businesses, civil society and individual citizens) in order to develop user-driven e-Government services. Collaboration with third parties will stimulate the creation of innovative, flexible and personalised services, increase the overall efficiency and effectiveness of services and maximise public value.

A number of services offered jointly with third parties exist already, involving local authorities as closer points of contact for the citizen, professionals (e.g. architects) who use public services on their clients' behalf and even businesses (e.g. insurance agencies) who package the use of public services within their commercial offering.

This model will be widened to cover a wide spectrum of public services through 'agents' and as a result increase the usage of e-Government services across the public.

1.7   Social Media Strategy

Since 2011, Malta has embarked on a phased approach towards the introduction of social media to facilitate two-way communication between government and the citizen. Malta is in the process of launching a Social Media strategy for the wider public sector, encouraging department and entities to train their employees and to embody Social Media as part of their communications and (more importantly) of their operations.

1.8   A Digital Gaming Strategy for Malta

In 2012, Games Audit UK Ltd, on behalf of the Digital Games Initiative Group which comprises of the Malta Enterprise, Malta Council for Science and Technology, University of Malta and the Creative Economy Working Group, prepared a report entitled "A Digital Gaming Strategy for Malta". The company undertook a research study to deliver the report aimed at guiding the national policy in the setting up a Digital Games Industry in Malta.

The aim of the report was twofold, firstly to attract foreign direct investment (FDI) and secondly to identify ways of stimulating, supporting and expanding the local games industry in Malta.

2.   Situational Analysis

Within the above strategic context, Malta has managed to achieve very good results in the area of ICT.

2.1 e-Government platforms

Malta is considered as one of the European pioneers in the advent of fully-transaction based online public services. The e-Government vision for 2009 – 2012, referred to as "the next generation e-Government", focused on:

- Citizen-centricity – a transition from the administrative e-Government services to innovative applications delivering tangible improvements in the quality of life of all citizens.
- Better, faster, scalable and less costly services.

Malta is constantly improving its e-Government platform to ensure that the number of services available online can increase without a proportionate increase in cost and complexity. The platform's architecture enforces a clear segregation between data, business logic and presentation, thus promoting reusability and scalability of overlying solutions, and minimum disruption in efforts to keeping them current in terms of growth, sophistication and user interface demands. All e-Government platform components are wrapped in a common look-and-feel and thus present a complete user experience.

Another key component in implementing e-Government, has been the setting up of the eForms platform which enables citizens to electronically submit applications related to Government services. The forms are produced on top of a workflow engine, meaning that information can be collected once at source, and be able to reduce the administrative burden by electronically distributing the forms within Government, tracking progress and informing the applicant accordingly. This platform is also integrated with the government payment gateway, thus ensuring that services can be rapidly developed and deployed to also cater for the financial aspect in a transaction.

The myBills platform provides the functionality for billing systems to integrate and generate the bills from a centralised portal. Citizens are able to pay invoices, program recurring payments and thus intelligently manage their bills. To date, integrations with the Controlled Vehicular Access (CVA), the Local Enforcement System, Trade Licenses and fees payable by public service garages have been successfully completed.

Key has also been the launch of an enterprise Content Management System (CMS). The main government portal and ministry websites are hosted on this platform. The enterprise architecture of this component is what distinguishes it from the traditional development model. Content is seen as data points, and may thus be organised to fit the business structure (e.g. Ministry portfolios) with ease, re-used across multiple presences based on the CMS or syndicated to be re-used in other systems. Deployments for 'standard' websites are no longer dependent on the introduction of new applications on the web-hosting stack which is now used for websites which require specific functionality. This has greatly shortened the lead time for the deployment of websites, from inception to production.

The enterprise CMS allows users to subscribe to alerts regarding changes in content, has inbuilt feedback functionality and is also integrated with various social media platforms. Users are thus pro-actively engaged in the running of public services, and are encouraged to tell the administration what they think. A sense of ownership in public services also means that services are consumed more responsibly and when genuinely needed. Ownership also instils a culture of *self-help* where public servants (in their personal capacity), citizens and businesses share their experiences to help others to have a better experience when consuming public services.

The e-Government services were distinctly customized for the provision of Government to Business ("G2B") services. The flag-bearer of this transformation process was the e-Procurement solution. The solution covers the full lifecycle of public procurement, from the publishing stage to award and execution of contracts. The e-Procurement encourages the aggregation of procurement across entities, resulting in lower costs to the Government through higher volume contracts. All tenders published by the Government Department of Contracts are now in electronic form, and bids are received only as e-Submissions.

As a result of such platform and solutions, e-Government in Malta has evolved from the vertical service-based approach to a complete online service fulfilling the citizens and businesses requirements at a high sophisticated level.

2.2   De-bureaucratisation

Government is committed to reduce by 25% the current bureaucratic administrative procedures. The Better Regulation Unit indicates that a reduction of the administrative burden by 15.6% was achieved by December 2012. The fight against bureaucracy will move hand-in-hand with the development of a truly digital government. Government is working steadily on a commitment to a 'One Face to Government' meaning that the internal complexities do not become a burden on the user of public services. The main internet point of presence is maturing into an important platform for the citizen (with all information, life events, communities and even online services available from within). Businesses benefit from a similar electronic platform. During 2012, the start of a migration to 'online-by-default' has started, using eForms to which 12.5% of all public services were already migrated.

2.3   Digital Divide

The reduction of the Digital Divide is an important focal point. According to the National Office of Statistics' 2012 figures, 77.5% of the households in Malta have access to the Internet; 83.3% of internet users use the Internet on a daily basis; 78.3% of households have a computer at home, and 83.5% of computer users are using a computer every day.

2.4   Digital Outreach

Key in implementing the ICT Agenda at a National level, has been the recognition that having the right ICT skills was an imperative. In order to facilitate this, the eSkills Alliance Malta was set up to serve as the link between the local ICT industry, academia and Government. Its work and corresponding results are guided by one simple principle – identifying and pursuing the creation of practical and relevant ICT skills, and not just random skills but targeted skills – namely those needed to attract investment and jobs with the best prospects.

A partnership with e-skills UK was formed for the national license of the IT Professional Standards. The Standards for ITalent clearly defines the e-competences required for the fulfilment of the various ICT-related job categories in the industry by having an official set of Maltese ICT occupational standards and e-skill guidelines.

Various projects were implemented in this area, but one highly successful initiative was the Second Step which provides the opportunity to participants of achieving a diploma in ICT for free. In 2012, 138 individuals successfully completed a national diploma in ICT.

MITA collaborated with and invested in the ICT Institute of the Malta College of Arts, Science and Technology (MCAST) with the aim of strengthening the skill-set of students and the continuous professional development of the academic staff. Through another partnership, this time with the University of Malta, investment was made in a new curriculum for the ICT degrees.

Another project involved the collaboration with the renowned research institution of INSEAD eLab. A Maltese e-Skills Demand and Supply Monitor was developed having the aim to gauge the present and forecasted availability of e-skills and how this matches the anticipated demand from the industry.

2.5 Education

In 2011, Government embarked on an e-learning programme. A national e-learning solution was procured and to-date, students and teachers in 57 state schools already have access to this solution. By June 2013, the e-learning solution will be rolled out in all state schools; hence all students and teachers in state primary and secondary schools will have access to the e-learning solution. Non-state primary and secondary schools will also be given access to the national e-Learning solution.

As part of this programme, every classroom in state schools has been equipped with an interactive whiteboard. In total, 2,200 interactive whiteboards have been installed. This has also led to private and church schools investing in similar technologies.

As part of the e-learning initiative, the International Connectivity for government schools has been upgraded to 50Mbps. Furthermore, the bandwidth from MITA where the e-learning solution is hosted to the schools was upgraded to 10 Mbps synchronous for each site.

2.6 International Partnerships and Collaborations

Government of Malta and Microsoft Corporation signed a five-year strategic partnership agreement consisting of a number of key initiatives. One of the main initiatives within the strategic agreement is the setting up of a Microsoft Innovation Centre in Malta focused on Cloud Computing with a seed investment of over €3 million by Microsoft and its partners.

A collaboration agreement was also signed between MITA, MCAST and Hewlett-Packard (HP) for the establishment of an HP Education Centre at MCAST. The main aim of such agreements between Government, education entities and ICT multinational companies is to stimulate more students to take up a career in ICT.

2.7 Infrastructure

Another area where Government invests heavily is ICT infrastructure. In 2011, Government inaugurated a TIER III Data Centre which serves to host government information infrastructure and systems.

Uptime Institute, the world-renowned leader in data centre classification, awarded MITA with the international certification for TIER III Data Centre Design. This demonstrates that the facility has attained high standards while providing a balance between performance, resource capacity and flexibility. The MITA Data Centre is the fifth data centres in Western Europe and one of only 34 data centres worldwide that have been certified to reach the Tier III Facility Certification. In May 2012, MITA Datacentre won the prestigious Public Sector Datacentre Project of the Year in the 2012 Datacentre Solutions Awards held in London.

2.8 International Recognition

The forward-looking approach towards ICT and the advanced ICT setup, particularly within the Public Service, has earned Malta a global reputation as a leader in the delivery of ICT services. Over the past years, the Government of Malta has managed to attain various prestigious recognitions in relation to ICT.

In particular, the 9th e-Government Benchmarking Report, released by the European Commission shows Malta as the best performing country by achieving 100% in five of the six core indicators, effectively establishing it as the European leader in e-Government.

The report measures six core indicators and using a ranking system, it shows the best performing countries that have implemented the most mature e-Government services. Malta was the only country amongst the EU27+ that managed to score 100% in five of these six core indicators.

Furthermore, the "Customer Care system" and the "Vehicle Registration and Licensing System" are two Maltese e-Government services awarded with the "Good Practice label" thanks to the provision of excellent and credible services. Another two online services, the Inland Revenue Services Online and the Malta Environment Planning Authority (MEPA) e-Applications, were nominated for the "European e-Government Awards".

In the 2010-2011 Networked Readiness Index (NRI) rankings, carried by the World Economic Forum, Malta ranked in the 27th position, out of 138 countries. Of particular notice is the 3rd place that Malta attained for the priority that its government gives to ICT.

Some of the results published by Eurostat in relation to information society are very encouraging, including the facts that, in 2012:

- 85% of the enterprises in Malta used the internet to obtain information from public authorities (9% points higher than the EU27 average);
- 29% of individuals in Malta are using the internet to download official forms;
- 77% of households have broadband access (5% points higher than the EU27 average); and
- 94% of enterprises in Malta have fixed broadband access (4% points higher than the EU27 average).

3. Malta's ICT Vision – A Digital Economy

Driven by the strong foundations laid down and by the encouraging results achieved in the ICT sector so far, Malta's vision for 2014 – 2017 will revolve around building a **Digital Economy** which is robust,

modern and amongst the best globally, and which will foster sustainable economic growth, wealth and well-being for all.

The Digital Economy, which will align to the government overall mandate and to the [Digital Agenda for Europe](), aims at:

- Leading Malta to be amongst the best in Europe;
- Spearheading initiatives to create the ideal entrepreneurial climate;
- Leveraging investment in technologies and human resources.

This will, in turn, translate in value-added economic opportunities and improvements to the social well-being of the citizens.

Despite Malta's relative small size and limited natural resources, these limitations are well compensated for when one considers how talented and dynamic Maltese are. As demonstrated over the past years both within the ICT and other sectors, the human resources are the country's major asset that will enable the government's vision.

Within this context, a Digital Economy within a digital society is Malta's present and future. This will evolve around five primary themes:

- The Citizen
- The Business Sector
- Civil Society
- Government Administration
- Technology

3.1 The Citizen

Government is committed to reduce further the digital divide. A key priority is to enhance digital literacy skills and e-networking skills, through improved accessibility whilst protecting individuals 'on-line'. ICT and Digital Literacy will be established as a subject from early years, along with those of mathematics and the sciences. Substantial investment will be channelled towards:

- An Education Infrastructure through the ongoing implementation and support of the e-Learning Programme and the provision of e-Platforms.
- A 'One Tablet per Child in Year 4', as well as tablets for teachers and Learning Support Assistants. A 'One Tablet per Child Fund' will be set up; individuals and private enterprises will be encouraged and incentivised to contribute towards this fund.
- The eSkills Alliance in order to strengthen the ICT human capital at a National level.
- The National ICT Infrastructure by partnering with the private sector in the provision of free wi-fi internet access across Malta and Gozo.
- Provision of ultra-fast, reliable and quality internet access to the home.
- The strengthening of the citizen's rights to launch petitions online.

In order to ensure that no citizens, particularly the disadvantaged ones, are left behind Government will also:

- Enhance and extend the intensity of ICT in the educational curricula.
- Harness the potential of senior citizens.

- Up-skill and re-skill persons in vulnerable groups.
- Increase female participation in the ICT Industry.

3.2   The Business Sector

Businesses will work within a robust business, legislative and regulatory framework so that the country can compete with the best in the world and build a competitive edge. Youngsters need to grow up within an educational system that promotes digitisation and entrepreneurship.

Malta can attract and cultivate creative industries through various initiatives including:

- A commitment to eliminate excessive bureaucracy.
- Continued support towards the iGaming and the digital gaming industry.
- Support to the local software industry.
- Assistance to local businesses to adopt the principle of 'Born Global'.
- Incentives to companies from the Far East to open near shore operations in Malta.
- A supporting environment for more focused Research and Innovation, and for new and creative ideas to be translated into effective outcomes.

In support of this, Government embarked on a process to assess which legislations need to be improved for Malta to remain a jurisdiction of high-reputation, and to continue to attract investments and create value-adding jobs.

Measures will be taken to streamline interaction between businesses and Government, and a range of e-business applications will be launched for businesses to work more effectively from their office in complying with Government regulations.

3.3   Civil Society

Civil Society is one of the main players in the development of a digital society, and in establishing an e-Democracy. Organisations within this ambient will be key to ensure that ICT brings about good value to society.   In this regard, Government is determined to:

- Enhance healthcare e-Services through the formation of a health-informatics group.
- Emphasise the importance of Malta's natural heritage through better use of ICT facilities.
- Explore, in association with the major stakeholders, the possibility of gradually using electronic voting facilities for the Local Council elections.
- Support Smart City in fulfilling its potential in the creation of jobs and improving the economy.
- Promote green ICT initiatives.

3.4   Government Administration

Government administration is a prime mover for the Maltese economy and therefore will play a critical role in its mission for achieving the Digital Economy. A more open and accountable government will be established to improve the public administration and its relationship with the

public. The use of digital tools is essential in this regard. The main initiatives targeted to attain the set objectives are:

- The adoption of the open government concept, not only to increase government's transparency and accountability but also to enable the participation of the citizens to contribute and directly influence government's decisions.
- The online publication of proposed laws so that the public will have the opportunity to ask questions, and to contribute comments and recommendations. The feedback will be taken into consideration when reviewing and amending the relevant bills.
- The online publication of Ministry objectives and targets.
- The provision of full online video streaming of all Parliamentary sittings.
- The transformation of government services to become more mobile-friendly and to encourage self-service.
- Addressing the quality of service and the service level agreements that government commits to.

3.5   Technology

Government is committed to retain the international profile enjoyed in this sector. This will be done through a refresh of the technology stacks and by capitalising on the un-precedented opportunities presented by the advent of new technologies. Measures will be taken to ensure that the services being delivered are cost-effective and are delivering their intended value. Particular importance will be given to Data security. Government is committed to:

- Increase the adoption of social networks to promote new initiatives and to influence government policies.
- Establish new and exploit current strategic alliances in order to improve the value proposition to Government.
- Explore the potential and the application of open source software and cloud computing.
- Promote ICT centres of excellence.

Government's key goal in establishing the Digital Economy is the attainment of further economic growth for the benefit of all, and a Digital Society where everyone feels involved and nobody is left behind.